

54-000410US.ST25.txt
SEQUENCE LISTING

<110> The Scripps Research Institute
Anderson, J C
Schultz, Peter G

<120> COMPOSITIONS OF ORTHOGONAL LEUCYL-tRNA AND AMINOACYL-tRNA
SYNTHETASE PAIRS AND USES THEREOF

<130> 54-000410PC

<140> PCT/US 04/022061
<141> 2004-07-07

<160> 72

<170> PatentIn version 3.2

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			20				25				30				

Leu	Thr	Ile	Pro	Tyr	Pro	Tyr	Leu	Asn	Gly	Asn	Leu	His	Ala	Gly	His
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50

55

60

Lys Gly Tyr Asn Val Leu Phe Pro Leu Gly Phe His Val Thr Gly Thr
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Ile Glu Val Tyr Thr Lys Tyr His Asp Val Pro Leu Glu Asp Leu Leu
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Gln Leu Thr Thr Pro Glu Lys Ile Val Glu Tyr Phe Ser Arg Glu Ala
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 145 150 155 160

Trp Lys Leu Lys Glu Leu Gly Leu Ile Val Lys Gly Thr His Pro Val
 165 170 175

Arg Tyr Cys Pro His Asp Gln Asn Pro Val Glu Asp His Asp Leu Leu
 180 185 190

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 210 215 220

Thr Val Phe Gly Val Thr Asn Ile Trp Val Lys Pro Thr Thr Tyr Val
 225 230 235 240

Ile Ala Glu Val Asp Gly Glu Lys Trp Phe Val Ser Lys Glu Ala Tyr
 245 250 255

Glu Lys Leu Thr Tyr Thr Glu Lys Lys Val Arg Leu Leu Glu Glu Val
 260 265 270

Asp Ala Ser Gln Phe Phe Gly Lys Tyr Val Ile Val Pro Leu Val Asn
 275 280 285

Arg Lys Val Pro Ile Leu Pro Ala Glu Phe Val Asp Thr Asp Asn Ala
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Thr Gly Val Val Met Ser Val Pro Ala His Ala Pro Phe Asp Leu Ala
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Ala Ile Glu Asp Leu Lys Arg Asp Glu Glu Thr Leu Ala Lys Tyr Gly
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 340 345 350

Thr Asp Ile Glu Gly Val Pro Ala Glu Lys Leu Ile Arg Glu Leu Gly
 355 360 365

Val Lys Ser Gln Lys Asp Lys Glu Leu Leu Asp Lys Ala Thr Lys Thr
 370 375 380

Leu Tyr Lys Lys Glu Tyr His Thr Gly Ile Met Leu Asp Asn Thr Met
 385 390 395 400

Asn Tyr Ala Gly Met Lys Val Ser Glu Ala Lys Glu Arg Val His Glu
 405 410 415

Asp Leu Val Lys Leu Gly Leu Gly Asp Val Phe Tyr Glu Phe Ser Glu
 420 425 430

Lys Pro Val Ile Cys Arg Cys Gly Thr Lys Cys Val Val Lys Val Val
 435 440 445

Arg Asp Gln Trp Phe Leu Asn Tyr Ser Asn Arg Glu Trp Lys Glu Lys
 450 455 460

Val Leu Asn His Leu Glu Lys Met Arg Ile Ile Pro Asp Tyr Tyr Lys
 465 470 475 480

Glu Glu Phe Arg Asn Lys Ile Glu Trp Leu Arg Asp Lys Ala Cys Ala
 485 490 495

Arg Arg Lys Gly Leu Gly Thr Arg Ile Pro Trp Asp Lys Glu Trp Leu
 500 505 510

Ile Glu Ser Leu Ser Asp Ser Thr Ile Tyr Met Ala Tyr Tyr Ile Leu
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Ala Lys Tyr Ile Asn Ala Gly Leu Leu Lys Ala Glu Asn Met Thr Pro
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Glu Phe Leu Asp Tyr Val Leu Leu Gly Lys Gly Glu Val Gly Lys Val
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Ala Glu Ala Ser Lys Leu Ser Val Glu Leu Ile Gln Gln Ile Arg Asp
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Asp Phe Glu Tyr Trp Tyr Pro Val Asp Leu Arg Ser Ser Gly Lys Asp
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Leu Val Ala Asn His Leu Leu Phe Tyr Leu Phe His His Val Ala Ile
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Phe Pro Pro Asp Lys Trp Pro Arg Ala Ile Ala Val Asn Gly Tyr Val
610 615 620

Ser Leu Glu Gly Lys Lys Met Ser Lys Ser Lys Gly Pro Leu Leu Thr
625 630 635 640

Met Lys Arg Ala Val Gln Gln Tyr Gly Ala Asp Val Thr Arg Leu Tyr
645 650 655

Ile Leu His Ala Ala Glu Tyr Asp Ser Asp Ala Asp Trp Lys Ser Arg
660 665 670

Glu Val Glu Gly Leu Ala Asn His Leu Arg Arg Phe Tyr Asn Leu Val
675 680 685

Lys Glu Asn Tyr Leu Lys Glu Val Gly Glu Leu Thr Thr Leu Asp Arg
690 695 700

Trp Leu Val Ser Arg Met Gln Arg Ala Ile Lys Glu Val Arg Glu Ala
705 710 715 720

Met Asp Asn Leu Gln Thr Arg Arg Ala Val Asn Ala Ala Phe Phe Glu
725 730 735

Leu Met Asn Asp Val Arg Trp Tyr Leu Arg Arg Gly Glu Asn Leu
740 745 750

Ala Ile Ile Leu Asp Asp Trp Ile Lys Leu Leu Ala Pro Phe Ala Pro
755 760 765

His Ile Cys Glu Glu Leu Trp His Leu Lys His Asp Ser Tyr Val Ser
770 775 780

Leu Glu Ser Tyr Pro Glu Tyr Asp Glu Thr Arg Val Asp Glu Glu Ala
785 790 795 800

Glu Arg Ile Glu Glu Tyr Leu Arg Asn Leu Val Glu Asp Ile Gln Glu
805 810 815

Ile Lys Lys Phe Val Ser Asp Ala Lys Glu Val Tyr Ile Ala Pro Ala
820 825 830

Glu Asp Trp Lys Val Lys Ala Ala Lys Val Val Ala Glu Ser Gly Asp
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Val Gly Glu Ala Met Lys Gln Leu Met Gln Asp Glu Glu Leu Arg Lys
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<213> Methanobacterium thermoautotrophicum

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Pro Glu Tyr Ile Val Glu Tyr Phe Ser Arg Glu Tyr Arg Ser Val Met
115 120 125

Glu Asp Met Gly Tyr Ser Ile Asp Trp Arg Arg Glu Phe Lys Thr Thr
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Asp Pro Thr Tyr Ser Arg Phe Ile Gln Trp Gln Ile Arg Lys Leu Arg
145 150 155 160

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165 170 175

Glu Cys Glu Asn Pro Val Gly Asp His Asp Leu Leu Glu Gly Glu Gly
180 185 190

Val Ala Ile Asn Gln Leu Thr Leu Leu Lys Phe Lys Leu Gly Asp Ser
195 200 205

Tyr Leu Val Ala Ala Thr Phe Arg Pro Glu Thr Ile Tyr Gly Ala Thr
210 215 220

Asn Leu Trp Leu Asn Pro Asp Glu Asp Tyr Val Arg Val Glu Thr Gly
225 230 235 240

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275 280 285

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325 330 335

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370 375 380

Ala Arg Gly Val Met Ser Ser His Ile Pro Val Tyr Gly Gly Met Lys
385 390 395 400

Val Ser Glu Ala Arg Glu Val Ile Ala Asp Glu Leu Lys Asp Gln Gly
405 410 415

Leu Ala Asp Glu Met Tyr Glu Phe Ala Glu Arg Pro Val Ile Cys Arg
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Cys Gly Gly Arg Cys Val Val Arg Val Met Glu Asp Gln Trp Phe Met
435 440 445

Lys Tyr Ser Asp Asp Ala Trp Lys Asp Leu Ala His Arg Cys Leu Asp
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Ser Thr Ile Tyr Met Ala Tyr Tyr Thr Ile Ala His Arg Leu Arg Glu
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545 550 555 560

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565 570 575

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580 585 590

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Glu Lys His Gly Ala Asp Val Val Arg Leu Phe Leu Met Ser Ser Ala
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Ile Leu Asp Gly Arg Pro Val Leu Ser Glu Val Thr Pro Ala Glu Pro
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54-000410US.ST25.txt

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54-000410US.ST25.txt

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54-000410US.ST25.txt

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